

FEBRUARY 5, 1878.

The President, Dr. RUSCHENBERGER, in the chair.

Thirty-two persons present.

The deaths of Andrew Murray, a correspondent, and of Dr. Chas. L. Cassin, U. S. N., a member of the Academy, were announced.

*Note on Calycanthus Floridus.*—Mr. THOMAS MEEHAN said, though this plant has been under culture for many years, the fruit was rarely seen. In correspondence with a leading author, it had been suggested that the plant might be incapable of self-fertilization, and that, being so far from its native place, the special insect arranged to be the agent in fertilization had not followed it. Since that time Mr. Meehan had obtained seeds from the Cumberland Mountains in Tennessee, and plants from these had flowered on his grounds, many of them producing fruit in the greatest abundance, while the old plants still remained as barren as they ever were. It was therefore clearly a case in which insects had no agency one way or the other. There was, he said, in plants two distinct forms of force—the vegetative and the reproductive; the one growing out of and dependent on the other, and yet to a certain extent antagonistic; and that these forces had their lines especially in the petaloid and staminoid verticils, and this resulted in producing some individual plants abundantly productive of fruit, while others were almost or wholly barren. This was the case with most species of plants. The lines were never exactly drawn between these forces. In the case of the Calycanths, the earliest individual introduced to culture happened to be one that favored the vegetative side, and in which the reproductive had but little power, and this individual, as often happens in nurseries, had been propagated from by cuttings or offsets and widely distributed. It was in this direction that we had to look for the explanation of many similar experiences, and not merely to the necessity for cross-fertilization.

He further called attention to the carpellary structure of the capsules of the Calycanths exhibited. It was not formed of a single verticil of primary leaves, but of many, as might be seen by the traces of the veins of the original leaves on the capsule. In most species of plants of this character the action of the reproductive over the vegetative force is so powerful, that the transformation is complete, and the casual observer could scarcely believe that a seed-vessel was but a mass of metamorphosed leaves. In this case we might say that the vegetative force had achieved considerable headway before the reproductive force had been able to bend the other to its own purposes.